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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/065,579

10/31/2002

Jeffrey Thomas Remillard

202-1294

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08/10/2004

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EXAMINER

SOHN, SEUNG C

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/065,579 | Applicant(s) REMILLARD ET AL. | |
| | Examiner Seung C. Sohn | Art Unit 2878 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. ***Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burns (Patent No US 5,953,110) in view of Marinelli et al. (Patent No US 5,890,796).***

Regarding claims 1, 2, 6-9 and 19-26, Burns discloses steps of transmitting a near-infrared light pulse at a first time (Col. 1, lines 8-12), receiving a portion of said light pulse reflected from said object (15), said portion being received at a second time, and determining a distance of said object based on a time difference between said first and second times (Col. 3, lines 9-27). Burns discloses as above, but is silent that there is a polymeric light reflector. Marinelli et al. shows in Fig. 2 a polymeric light reflector (16, i.e., thin sheet optical element) (Col. 3, lines 32-38), and discloses reflecting said light pulse from a first reflective surface (20, i.e., manifold section) in said reflector to a second reflective surface (22, i.e., kicker section) in said reflector and reflecting said light pulse outwardly from said second reflective surface (Col. 4, lines 23-42). It would have been obvious to a person having ordinary skill in the

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art to provide the polymeric light reflector of Marinelli et al. in the device of Burns for the purpose of changing directions of light with not-so-easily breaking polymeric material. Also, averaging received waveforms is a common way of method to obviate extreme waveform fluctuations.

Regarding claims 3-5 and 15-17, it is inherent that object is detected when any portion of said waveform has an amplitude greater than a predetermined threshold at said second time since more light is reflected back to the detector if there is an object.

Regarding claims 10-14, Burns shows in Fig. 1 a near-infrared light source (12) generating a light pulse at a first time, a near-infrared light detector (20) configured to receive at least a portion of said light pulse reflected off the object (15), said portion being received at a second time; and a controller (11, 16, 22) operably connected to said light source and said light detector, said controller configured to determine a distance of the object based on a time difference between said first and second times (Col. 3, lines 9-27). Burns discloses as above, but is silent that there is a polymeric light reflector. Marinelli et al. shows in Fig. 2 a polymeric light reflector (16, i.e., thin sheet optical element) (Col. 3, lines 32-38), and discloses reflecting said light pulse from a first reflective surface (20, i.e., manifold section) in said reflector to a second reflective surface (22, i.e., kicker section) in said reflector and reflecting said light pulse outwardly from said second reflective surface (Col. 4, lines 23-42). It would have been obvious to a person having ordinary skill in the art to provide the polymer light reflector of Marinelli et al. in the device of Burns for the

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purpose of changing directions of light with not-so-easily breaking polymeric material.

Regarding claim 18, Burns shows In Fig. 1 a host computer (22) comprising code for inducing a light source (12) to emit a light pulse at a first time toward an object (15), code for storing values indicative of a received portion of said light pulse reflected from the object at a second time, and code for calculating a distance of the object from said reflector based on a time difference between said first and second times. Burns discloses as above, but is silent that there is a polymeric light reflector. Marinelli et al. shows in Fig. 2 a polymeric light reflector (16, i.e., thin sheet optical element) (Col. 3, lines 32-38), and discloses reflecting said light pulse from a first reflective surface (20, i.e., manifold section) in said reflector to a second reflective surface (22, i.e., kicker section) in said reflector and reflecting said light pulse outwardly from said second reflective surface (Col. 4, lines 23-42). It would have been obvious to a person having ordinary skill in the art to provide the polymeric light reflector of Marinelli et al. in the device of Burns for the purpose of changing directions of light with not-so-easily breaking polymeric material.

Response to Arguments

3. Applicant's arguments filed May 28, 2004 have been fully considered but they are not persuasive.

In response to the Applicant's argument that Marinelli et al. is directed to a laser illuminated lighting system and is non-analogous art such that the proposed

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combination is improper, the Examiner notes that a prior art reference is analogous of the reference is in the field of applicant's endeavor or, if not, the reference is reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed, Cir. 1992).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

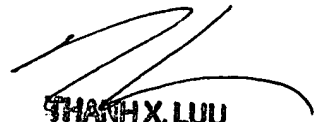
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seung C. Sohn whose telephone number is (571) 272-2446. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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THACH X. LUU
PATENT EXAMINER